

# Rodrigo S Targino

Curriculum Vitae  
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## Education

2012	2017	PhD in Statistics	University College London (UCL)	London, UK
2018	2010	MSc in Statistics	Federal University of Rio de Janeiro (UFRJ)	Rio de Janeiro, Brazil
2004	2007	BSc in Applied Mathematics	Federal University of Rio de Janeiro (UFRJ)	Rio de Janeiro, Brazil

## Employment

2022	<b>Visiting Associate Professor</b> , Department of Statistics and Applied Probability, University of California, Santa Barbara (UCSB)			Santa Barbara, CA, USA
2017	<b>Assistant Professor</b> , School of Applied Mathematics (EMAp), Getulio Vargas Foundation (FGV)			Rio de Janeiro, Brazil
2011	2012	<b>Market Risk Analyst</b> , Credit Suisse Hedging Griffo		São Paulo, Brazil
2010	2011	<b>Credit Risk Analyst</b> , Itaú-Unibanco Bank		São Paulo, Brazil

## Grants

2022	2023	Multi-population mortality modelling and pension risk management	Bolsa Esp Exter - CNPq
2022	2025	Construction and risk management of financial portfolios in high dimensions using approximated inference	JCNE - FAPERJ
2022	2022	Topic modelling in news articles: an example from Brazil	MAPS Visiting Fellowship - UCL
2021	2023	Construction and risk management of financial portfolios in high dimensions using approximated inference	APQ - FAPERJ
2020	2022	Encrypted Machine Learning: Applications in Actuarial Sciences and Beyond	ARC - FAPERJ
2019	2021	A novel framework for semi-automatic text classification	FGV EMap
2019	2019	2nd Financial Mathematics Team Challenge - Brazil	FGV EMap
2018	2018	1st Financial Mathematics Team Challenge - Brazil	FGV EMap
2018	2018	1st Financial Mathematics Team Challenge - Brazil	PAEP - CAPES
2017	2019	Improvements of the Brazilian economic uncertainty index	FGV Applied Research Grant
2017	2018	Development of a price index for car insurance in Brazil	FGV Applied Research Grant

## Awards

2022	CNPq Postdoc scholarship
2017	Mentor of the winning team of the 4th FMTC
2014	Australia Awards Endeavour Fellowship
2012	CSIRO Top-up travel bursary
2012	CNPq PhD scholarship
2008	CAPES Masters scholarship
2006	CNPq Scientific Initiation scholarship

## Teaching experience

2023	2023	BSc	UCSB	Regression Analysis
2022	2022	BSc	UCSB	Introduction to Bayesian Data Analysis
2017	2018	BSc	FGV	Probability
2017	2018	BSc	FGV	Statistics
2017	2021*	MSc	IMPA	Statistics and Econometrics
2018	2019	MSc	FGV	Statistics
2019	2022*	BSc	FGV	Machine Learning
2019	2022	MSc	FGV	Probability
2020	2022	MSc/PhD	FGV	Machine Learning
2020	2020	BSc	FGV	Statistics and Econometrics

(\*) excluding 2018

## Academic supervisions

**PhD**

2022 Wellington Carlos da Rosa Nascimento FGV Optimization and Bayesian Inference applied to the quantification of risks associated with oil exploration

**MSc**

2022 André Lorenzo Bittencourt IMPA TBD  
 2020 2021 Luiz Fernando G. N. Maia FGV Modelos in-play para partidas do Campeonato Brasileiro de Futebol  
 2019 Hugo Barreto FGV TBD  
 2019 Christiano Lo Bianco Clementino IMPA TBD  
 2019 2020 Pedro Medeiros Teixeira FGV Identification of causal effects: a methodological review  
 2019 2020 Marcelo Orgler FGV Multivariate loss reserving using factor copulas  
 2018 2019 Lucas Paiva de Carvalho IMPA Pricing interest rate derivatives under monetary changes  
 2018 2019 João Marcos Amorim dos Santos FGV Previsões de Resultados em Partidas do Campeonato Brasileiro de Futebol  
 2018 2019 Yuri Resende Fonseca\* IMPA Tree Based Model for Estimating the Local Volatility Surface  
 2017 2018 Renan Lima Novais\* FGV Estudo de aplicações de Processos Gaussianos na predição de valor de oferta de venda de apartamentos

**BSc**

2022 Rener de Souza Oliveira FGV TBD  
 2021 2021 Denner da Silva Santos FGV Estudo do filtro de Kalman para modelos dinâmicos lineares  
 2021 2021 Vitoria Mesquita Leite FGV Estudo da utilização de redes neurais recorrentes para geração de manchetes  
 2019 2020 Matheus Borghi FGV Impacto da sensibilidade a variáveis Macroeconômicas no Risco de Crédito Corporativo Norte-americano  
 2017 2017 Paulo de Tarso Silva Santos\* FGV Modelos de previsão do resultado de atas do Copom baseados em processamento de linguagem natural e curvas de ativos financeiros  
 2016 2016 Helder Rezende\* FGV O Cálculo do VaR usando Modelos de Volatilidade

(\*) Second supervisor

**Editorial activity**

2021 Associate Editor Brazilian Review of Finance (RBFIn)

**Refereeing services****Journals**

Risks, Journal of Risk and Financial Management, Computation and Applied Mathematics, Brazilian Review of Econometrics, ASTIN Bulletin, Journal of Banking and Finance, Sustainability, Quantitative Finance, Revista Contabilidade & Finanças, Brazilian Review of Finance, International Journal of Forecasting, Applied Stochastic Models in Business and Industry, Computational Statistics, Annals of Actuarial Science, European Actuarial Journal, Variance

**Funding agencies**

Natural Sciences and Engineering Research Council of Canada, Czech Science Foundation

**Research visits**

2022 Ioanna Manolopoulou UCL, UK  
 2019 Samuel Livingstone UCL, UK  
 2019 Emmanuel Gobet École Polytechnique, France  
 2014 Pavel Shevchenko CSIRO, Australia  
 2014 Mario Wuthrich ETH, Switzerland  
 2013 Pavel Shevchenko CSIRO, Australia

**Publications****Refereed research papers**

1. Benezet, C., Gobet, E., & Targino, R. S. (2022). Transform MCMC schemes for sampling intractable factor copula models. *Methodology and Computing in Applied Probability (in Press)*. <https://hal.archives-ouvertes.fr/hal-03334526>
2. Koike, T., Saporito, Y. F., & Targino, R. S. (2022). Avoiding zero probability events when computing value at risk contributions. *Insurance: Mathematics and Economics*, 106, 173–192. <https://doi.org/https://doi.org/10.1016/j.insmatheco.2022.06.004>

3. Nieto-Barajas, L. E., & Targino, R. S. (2021). A gamma moving average process for modelling dependence across development years in run-off triangles. *ASTIN Bulletin: The Journal of the IAA*, 51(4), 245–266. <https://doi.org/http://doi.org/10.1017/asb.2020.36>
4. Merkle, M., Saporito, Y. F., & Targino, R. S. (2020). Bayesian approach for parameter estimation of continuous-time stochastic volatility models using fourier transform methods. *Statistics & Probability Letters*, 156, 108600. <https://doi.org/https://doi.org/10.1016/j.spl.2019.108600>
5. Peters, G. W., Targino, R. S., & Wüthrich, M. V. (2017). Bayesian modelling, monte carlo sampling and capital allocation of insurance risks. *Risks*, 5(4), 53. <https://doi.org/https://doi.org/10.3390/risks5040053>
6. Targino, R. S., Peters, G. W., Sofronov, G., & Shevchenko, P. V. (2017). Optimal exercise strategies for operational risk insurance via multiple stopping times. *Methodology and Computing in Applied Probability*, 19(2), 487–518. <https://doi.org/http://dx.doi.org/10.1007/s11009-016-9493-8>
7. Peters, G. W., Targino, R. S., & Wüthrich, M. V. (2017). Full bayesian analysis of claims reserving uncertainty. *Insurance: Mathematics and Economics*, 73, 41–53. <https://doi.org/http://dx.doi.org/10.1016/j.insmatheco.2016.12.007>
8. Targino, R. S., Peters, G. W., & Shevchenko, P. V. (2015). Sequential monte carlo samplers for capital allocation under copula-dependent risk models. *Insurance: Mathematics and Economics*, 61, 206–226. <https://doi.org/https://doi.org/10.1016/j.insmatheco.2015.01.007>
9. Peters, G. W., Targino, R. S., & Shevchenko, P. V. (2013). Understanding operational risk capital approximations: First and second orders. *The Journal of Governance and Regulation*, 2(3). [https://doi.org/https://doi.org/10.22495/jgr\\_v2\\_i3\\_p6](https://doi.org/https://doi.org/10.22495/jgr_v2_i3_p6)

#### Working papers under revision or review

1. Costa, B. F. P. da, Pesenti, S., & Targino, R. S. (2022). *Risk budgeting portfolios from simulations*. <https://ssrn.com/abstract=4038514>
2. Evangelista, D., Saporito, Y. F., & Targino, R. S. (2021). *Uma análise do risco de fundos de ações brasileiros em 2020*. <https://papers.ssrn.com/abstract=3825680>
3. Duarte, D., Saporito, Y. F., & Targino, R. S. (2018). *The impact of the freedom of the press on risk*. <https://dx.doi.org/10.2139/ssrn.3218754>

#### Academic presentations

1. Transform MCMC schemes for sampling intractable factor copula models. (2022). *Department of Statistics and Applied Probability (PSTAT), UCSB*. <https://www.dropbox.com/s/11ga78rfh19xrl6/Slides-Targino.pdf?dl=0>
2. Risk budgeting portfolios from simulations. (2022). *Duncan Chair Actuarial Science Research Day, UCSB*. [https://www.dropbox.com/s/xomrmvececbwovu/risk\\_parity.pdf?dl=0](https://www.dropbox.com/s/xomrmvececbwovu/risk_parity.pdf?dl=0)
3. Risk budgeting portfolios from simulations. (2022). *Research in Options (RiO)*. [https://www.dropbox.com/s/sq092ax1xb0pqg9/risk\\_parity.pdf?dl=0](https://www.dropbox.com/s/sq092ax1xb0pqg9/risk_parity.pdf?dl=0)
4. Transform MCMC schemes for sampling intractable factor copula models. (2022). *Department of Statistical Sciences, UCL, London, UK*. <https://www.dropbox.com/s/11ga78rfh19xrl6/Slides-Targino.pdf?dl=0>
5. Transform MCMC schemes for sampling intractable factor copula models. (2022). *Department of Statistical Sciences, UFRJ, Rio de Janeiro, Brazil*. <https://www.dropbox.com/s/uxm6x4mnfcncq0i4/Slides-Targino.pdf?dl=0>
6. Risk budgeting portfolios from simulations. (2021). *Data Science and Quantitative Strategies Reading Group (Itaú-Unibanco)*. <https://www.dropbox.com/s/5kzzbouwped2yaj/20211111.pdf?dl=0>
7. Avoiding zero probability events when computing value at risk allocations. (2021). *24th International Congress on Insurance: Mathematics and Economics*. [https://www.dropbox.com/s/junsmax00j4nfoj/slides\\_Euler\\_Malliavin.pdf?dl=0](https://www.dropbox.com/s/junsmax00j4nfoj/slides_Euler_Malliavin.pdf?dl=0)
8. Risk budgeting portfolios from simulations. (2021). *3rd Insurance Data Science Conference*. [https://www.dropbox.com/s/czqfnqsu9hlwwf9/20210616\\_short.pdf?dl=0](https://www.dropbox.com/s/czqfnqsu9hlwwf9/20210616_short.pdf?dl=0)
9. Transform MCMC schemes for sampling intractable factor copula models. (2021). *RESIM 2021 : 13th International Workshop on Rare-Event Simulation*. <https://www.dropbox.com/s/7bphf9w4h5wobdd/Slides-Targino-RESIM-May2021.pdf?dl=0>
10. The economic uncertainty index: The brazilian case, its relations with the freedom of the press and new estimation methods. (2020). *School of Economics USP-RP*. [https://www.dropbox.com/s/iz7w495qe5xknpz/slides\\_FOTP.pdf?dl=0](https://www.dropbox.com/s/iz7w495qe5xknpz/slides_FOTP.pdf?dl=0)
11. Round table on the job market for data scientists. (2020). *3ª Semana Da Engenharia Matemática e Matemática Aplicada Da UFRJ*. <https://youtu.be/ennu0cEwbLI?t=27639>
12. Avoiding zero probability events when computing value at risk allocations. (2020). *One World Actuarial Research Seminar (OWARS)*. [https://www.dropbox.com/s/qvas8cglqn8s16l/slides\\_Euler\\_Malliavin.pdf?dl=0](https://www.dropbox.com/s/qvas8cglqn8s16l/slides_Euler_Malliavin.pdf?dl=0)

13. Understanding economic policy uncertainty index using semi-automatic news classification. (2020). *Encontro Brasileiro de Estatística Bayesiana (EBEB)*, Maresias, Brazil. [https://www.dropbox.com/s/lvvb6wvs230o8n9/EPU\\_particle\\_filters.pdf?dl=0](https://www.dropbox.com/s/lvvb6wvs230o8n9/EPU_particle_filters.pdf?dl=0)
14. Understanding economic policy uncertainty index using semi-automatic news classification. (2019). *École Polytechnique*, Paris, France. [https://www.dropbox.com/s/1fujxpi3it6r09j/EPU\\_particle\\_filters.pdf?dl=0](https://www.dropbox.com/s/1fujxpi3it6r09j/EPU_particle_filters.pdf?dl=0)
15. Understanding economic policy uncertainty index using semi-automatic news classification. (2019). *4th International Workshop in Financial Econometrics\**, Maceió, Brazil.
16. Understanding economic policy uncertainty index using semi-automatic news classification. (2019). *Escola de Séries Temporais e Econometria*, Gramado, Brazil.
17. Understanding economic policy uncertainty index using semi-automatic news classification. (2019). *Workshop on Stochastic Simulation Methods in Statistics*, Rio de Janeiro, Brazil.
18. Understanding economic policy uncertainty index using semi-automatic news classification. (2019). *Universidade Federal de Santa Catarina (UFSC)*, Florianópolis, Brazil.
19. The impact of the freedom of the press on risk. (2019). *SIAM Conference on Financial Mathematics & Engineering*, Toronto, Canada. <https://www.dropbox.com/s/u77t1n25hk3rqop/News.pdf?dl=0>
20. The impact of the freedom of the press on risk. (2019). *Universidade Federal Do Rio de Janeiro (UFRJ)*, Rio de Janeiro, Brazil.
21. Bayesian modelling, monte carlo sampling and capital allocation of insurance risks. (2019). *3rd International Congress on Actuarial Science and Quantitative Finance*, Manizales, Colombia. <https://www.dropbox.com/s/zzq149agokfgqkj/RiskMargin.pdf?dl=0>
22. Prediction of the volatility surface with generalized autoregressive score (GAS) models. (2018). *Congresso Nacional de Matemática Aplicada e Computacional (CNMAC)*, Campinas, Brazil.
23. The impact of the freedom of the press on risk. (2018). *33 Foro Nacional de Estadística (FNE) y 13 Congreso Latinoamericano de Sociedades de Estadística (CLATSE)*, Guadalajara, Mexico. [https://www.dropbox.com/s/34rp3qqhmk8iitp/slides\\_FOTP.pdf?dl=0](https://www.dropbox.com/s/34rp3qqhmk8iitp/slides_FOTP.pdf?dl=0)
24. The impact of the freedom of the press on risk. (2018). *Workshop in Econometrics*, São Paulo, Brazil.
25. Efficient monte carlo algorithms for risk allocation. (2018). *Research in Options (RiO)*, Rio de Janeiro, Brazil. <https://www.youtube.com/watch?v=xm0isODxSoE>
26. Bayesian modelling, monte carlo sampling and capital allocation of insurance risks. (2018). *Simpósio Nacional de Probabilidade e Estatística*, São Pedro, Brazil.
27. Realistic risk parity portfolios. (2017). *3rd International Workshop in Financial Econometrics\**, Arraial d'Ajuda, Brazil.
28. Bayesian modelling, monte carlo sampling and capital allocation of insurance risks. (2017). *31st Brazilian Mathematical Colloquium*, Rio de Janeiro, Brazil.
29. Bayesian modelling, monte carlo sampling and capital allocation of insurance risks. (2017). *UCT - Mid-Challenge Workshop in Financial Mathematics*, Cape Town, South Africa.
30. Bayesian modelling, monte carlo sampling and capital allocation of insurance risks. (2017). *Universidade Federal Do Rio de Janeiro (UFRJ)*, Rio de Janeiro, Brazil.
31. Bayesian modelling, monte carlo sampling and capital allocation of insurance risks. (2017). *Instituto Nacional de Matemática Pura e Aplicada*, Rio de Janeiro, Brazil.
32. Bayesian modelling, monte carlo sampling and capital allocation of insurance risks. (2016). *3rd Workshop on Assessment of Risk (WAR)\**, São Paulo, Brazil.
33. Bayesian modelling, monte carlo sampling and capital allocation of insurance risks. (2016). *Research in Options (RiO)*, Rio de Janeiro, Brazil. [https://www.youtube.com/watch?v=toqA3\\_v8Kfs&t=3961s](https://www.youtube.com/watch?v=toqA3_v8Kfs&t=3961s)
34. Bayesian modelling, monte carlo sampling and capital allocation of insurance risks. (2016). *Fundação Getulio Vargas*, Rio de Janeiro, Brazil.
35. Bayesian modelling, monte carlo sampling and capital allocation of insurance risks. (2016). *Cass Business School*, London, United Kingdom.
36. Sequential monte carlo samplers for capital allocation under copula-dependent risk models. (2015). *Christmas Workshop on Sequential Monte Carlo and Related Methods*, London, UK.
37. Sequential monte carlo samplers for capital allocation under copula-dependent risk models. (2015). *Sequential Monte Carlo Workshop\**, Paris, France.
38. Sequential monte carlo samplers for capital allocation under copula-dependent risk models. (2015). *Congress on Insurance: Mathematics and Economics*, Liverpool, UK.
39. Sequential monte carlo samplers for capital allocation under copula-dependent risk models. (2015). *Universidade Federal Do Rio de Janeiro (UFRJ)*, Rio de Janeiro, Brazil.

40. Sequential monte carlo samplers for capital allocation under copula-dependent risk models. (2014). *University of New South Wales (UNSW), Sydney, Australia.*
41. Sequential monte carlo samplers for capital allocation under copula-dependent risk models. (2014). *Research Students Conference, Nottingham, United Kingdom.*
42. Sequential monte carlo samplers for capital allocation under copula-dependent risk models. (2014). *Monte Carlo and Quasi Monte Carlo (MCQMC), Leuven, Belgium.*
43. Optimal exercise strategies for operational risk insurance via multiple optimal stopping times. (2013). *Universidade Federal Do Rio de Janeiro (UFRJ), Rio de Janeiro, Brazil.*
44. (2013). *CFE-ERCIM, London, United Kingdom.*
45. (2013). *Macquarie University, Sydney, Australia.*
46. Hedging in incomplete markets using fourier series method. (2009). *Research In Options\*, Búzios, Brazil.*
47. Applications of the fractional brownian motion in finance. (2009). *XIII Brazilian School of Probability\*, Maresias, Brazil.*
48. Estimation of the parameters of the heston model by fourier series method. (2009). *13a Escola de Séries Temporais e Econometria, São Carlos, Brazil.*
49. Calibration of the heston model by fourier series method. (2009). *Fourth Brazilian Conference on Statistical Modelling in Insurance and Finance, Maresias, Brazil.*
50. Bayesian selection for heston models with volatilities determined by fourier series method. (2008). *Research In Options (RiO)\*, Angra Dos Reis, Brazil.*

(\*) Poster presentations.